RHIC SHUTDOWN SCHEDULE – rev. 1

RESULTS – 2200HRS, FEB. 19, 2003

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SHUTDOWN REQUEST PRIMARILY FOR ACCESS TO IR'S BY EXPERIMENTERS

SHUTDOWN PERIOD: WEDS., Feb. 19, 2003, 1200 TO 2000HRS(SYSTEMS READY FOR BEAM BY 2000HRS)

BOOSTER POL. PROTONS BEAM STUDY BEGINS 1200HRS. WEDNESDAY UNTILL CHANGEOVER TO RHIC INJECTION

AGS/BOOSTER – NO ACCESS

ATR/UP/DWN RESTRICTED ACCESS – WEDS. 1300 TO 1600

RHIC IR's – RESTRICTED ACCESS – 1200 to ?? most sweeps completed by 2100

RHIC TUNNEL RESTRICTED ACCESS PERIOD - 1200 to 1930 (SWEEPS BEGIN AS JOBS ARE COMPLETED) – HP surveys required for beam dump and injection line. Additional surveys requested for sect. 8 north of PHENIX through sect 9 and IP10 in sect. 10.

PRIMAY JOBS:

JOBS STATUS CODE: **C** complete **IP** in-process **RS** reschedule **CAN** cancelled
***** additions

RHIC TESTING

C 1. Correctors/Quench protection – investigate low resistance/shorts, repair and test(Bruno/Ganetis)

AGS RING ACCESS JOBS

RS 1. Main Magnet serial number inventory(M. Hemmer)
RS 2. Test Ring exhaust fans(AC Grp)

AGS EXTERNAL

RS 1. Vacuum – check/repair all IPPS(A10, E-18, H-10)
RS 2. Vacuum – compile list of suspected bad ion pump cables

BOOSTER RING ACCESS JOBS

RS 1. Replace emergency light batteries at plug door
RS 2. Check and drain air lines

BOOSTER EXTERNAL

RS 1. Check Bldg. 914 Pump Hse. spare air compressor unit
RS 2 Replace switches on timing decoder board with jumpers.(Ctrls Grp)

BAF EXTERNAL

RS 1. Bldg. 958 heating – check heaters at outdoor A/C units inside berm fence

ATR ACCESS JOBS

C 1 Drain air lines (FES)
C 2 Check water flow for W Line magnets

RHIC ACCESS JOBS

1. P.S.'s – repairs(See List)
C 2. Stoichastic Cooling(sect. 1 & 2) – commissioning(Gassner)
C 3. Inspect entire tunnel for condition of ice balls.(Zapasek) – 1 bad therm

Vacuum Systems:

C 4 Replace gauges: Cryostat – Bi12-cc-pi21, bi4-cc-pi21, g11-cc-pix.1
C 5 Check and drain air lines
C 6 Replace RF tmp iso gauge g4-tmp-pwx-cc1 at ir4
C 7 Replace shutter solenoid at IP12/install airline drain-off
C 8 Troubleshoot PPA network(sectors 10 & 11)

C 9 Sublimate sectors yi-10 and ip-10
C 10 Check tc gauge utc6
C 11 Check TMP's: g1-tmp-pi1, g5-tmp-pi1, g7-tmp-pi3.1, bo6-tmp-pi8.1

C 12 Hodoscopes in sect. 12 – continue testing and set-up(Bm. Inst.)
C 13 Roman Pots in sects. 1 & 2 – repairs/modifications/testing(Bm. Inst.)
C 14 Luminosity Monitor in sect. 12 – start set-up for upcoming installation(Bm Inst)
C 15 Stoichastic Cooling in sect. 2 – troubleshoot Inchworm Controls(Bm Comp)
C 16 Install IFE's for beam position electronics in the pairs of rotators(one ylw, one blu) in sectors 5,6,7,and 8.(HF Inst.)
RS 17 Perform PM's on alcove A/C units
RS 18 Perform PM's on fire alarms in sectors 10&12

Controls Systems:

RS 19 Troubleshoot 2amp delta readback Iref and I from Y08-QS3-PS in alcove 1009A
C 20 Replace V113 MADC Controller Brd.. Check MADC channels for BO3-TH4, BO3-TH8, BOS-TV9, BO3-TH2 and BO3-QS3 in 1003C
C 21 Install voltage monitoring boards – alcoves 1009A and 1007C

C 22 Repair IPM amplifiers on both sides of 2 o'clk IR(Connolly)
C 23 Replace bo3-bv21 in alcove 3A(Sikora)
C 24 Replace bo7-bv17 in alcove 7C(Sikora)
RS 25 Pull cable to 4GE1, 4GE2, and 4GE3 Gates from 1004B(Access Ctrls)
RS 26 Install and terminate Card Reader cables at 2,6,8, and 12(Access Ctrls)
C 27 Repair BPM yxbv13

RHIC EXTERNAL

1 Power supplies. See P.S. List
C 2 Check zero adjustments on all 6000amp lead flows(service bldgs.)
C 3 PHOBOS – maint. on twr. fan

RHIC POWER SUPPLIES(Bruno) – ALL REQUIRED REPAIRS COMPLETED

IR Power Supplies

1. If 6b yellow trips return then we may want to remove the permit module interface chassis again and replace it with one that has all LEMO connectors in it. NO ONE
2. Ice Ball Checking and PK will replace 2 thermostats that are bypassed now. Ron & Tom. Jeff helping PK with repairs.
3. Possible work on y2-dh0-ps and yo9-dh0-ps fiber optic interface cards. Check y2-dh0 in STBY with zero setpoint. Before f.o. card was modified analog out=0.6mV and Dac out =0.5mV. After cycling from OFF to STBY with umodified f.o. card analog out=0mV and Dac out =0.6mV. After card was modified and re-installed analog out=0mV and Dac out =0.4mV. yo9-dh0-ps looks better after work on 2/6/03. See waveforms. NO ONE
4. In 1006B keep an eye out for any trips of y6-dh0. We had one on Thurs 12/19 at around 11:56 pm due to voltage spike and we want to see if it comes back. Gregg reseated some hkps connectors and it has not come back since. NO ONE.
5. Go into all blue dhx and dh0 qpa's and tag controller cards. Tag should say that this controller card must be replaced only with a controller card that is labeled for a blue dhx or dh0 qpa. Rich Kurz and Tom Nolan. The outside of the QPA's have already been labeled by Rich K and Tom Nolan
6. In the tunnel take a sample of green stuff from Power leads on magnets. NO ONE.
7. In 1010A, if there is time we may want to check more tq power supplies for shorted IGBT's by looking at the AC current during a turn ON. NO ONE.
8. More Q6 time constant testing and finally installing final improvement of q6 time constant. Don
9. If time allows go around and start screwing in all cards in 3u chassis after 12pm. Rich Kurz, when he is done labeling qpa controller cards and others when they are done with ice ball checks.
10. Remove Logic Analyzer from 6b if no more unexplained yellow 6b trips between now and then. Done
11. Possibly replace current regulator card for bi5-qd1-ps. Keep an eye on ramps. See ramp on 2/1/03 at 21:12:11 for glitch. NO ONE.
12. Replace current regulator card for y8-dh0-ps? See glitch during that caused QLI of 22:39:30 on 1/31/03. We may want to swap out hkps too because the Vripple looks different than the other p.s.'s. We will swap out **just hkps** for now. Joe and Rich C. Stay away from isoamp board – ask Don why.
13. Check why b2-dh0-ps tripped to the OFF state, on 2/8/03. Don and Gregg
14. bi9-qf7-ps caused a QLI and it may have been current regulator card, replace it. Gregg and Don
15. bo7-tq4-ps looks like it has a fiber optic interface card problem. Don and Gregg

Corrector Power Supplies

1. yi7-th3-ps still shows "no ps illegal state" alarm every once in a while. We swapped out the p.s. already. Now we should swap out the node card cable. We should also check all of the chips on the node card that were replaced and if some problem is found with them and fix it. Let's leave node card in for now because it has not happened that much more. Yo1-qs-ps tripped to the OFF state on 2/3/03 and 2/4/03, replace it. Bi5-sx3-ps push buttons did not work well in local, this is a low priority. Yo8-th2-ps has a broken local/remote switch but it works fine in Remote, this has a low priority. Check MADC readbacks of bo10-tv3-ps, bo3-qs3-ps, bo3-th2-ps, bo3-th8-ps, bo3-tv9-ps, bo3-th4-ps, this means check LEMOS. Yo5-octd-ps tripped OFF, replace. Yo8-th2-ps tripped to ERROR fault 3 times on 2/9/03, check connections at the magnet and at p.s., this p.s. was swapped out already. Yo8-th2-ps magnet connections were checked and tightened on Thursday 2/13/03. Yo8-th14-ps tripped off, replace it. Yi7-oct3-ps also sends back a false readback of "no ps illegal state" every once in a while, no action yet. Check that CAS put correct compensation in yo9-tv11-ps. Bi9-tv14-ps tripped to the OFF state 2/15/03-replace and check AC connections, same for bo3-tv17-ps which tripped to the OFF state on 2/17/03 3 times. Yi7-tv18-ps tripped OFF on 2/17/03, replace. yo4-th2-ps tripped off on 2/17/03, replace. Bi9-tv16-ps tripped off on 2/19/03, replace. Gene & Brian
2. Controls needs to look at yo8-qs3-ps because there is a 2A offset between the iref and current MADC's. The input to the patch panel matches. Controls

Gamma-T Power Supplies:

1. bo10-qgt-ps tripped to the OFF state on 1/31/03, 2/1/03, 2/3/03, 2/4/03. We already replaced the slugs with fuses in this p.s., next we will solder wires in place of the fuses and check for other reasons the p.s. may be tripping off. Could be looses connections on hkps or backplane. Same goes for bi1-qgt-ps, it tripped to the OFF state on 2/4/03 and yo12-qgt-ps which tripped OFF on 2/9/03 three times and yi10-qgt-ps which tripped off on 2/11/03. Don & Gregg
2. In alcove 1C one of the Gamma-T's needs its MADC connector repaired properly. Gregg knows which Gamma-T this is. Gregg & Don
3. Gamma-T Circuit breaker that did not get labeled should get labeled. Ask Gregg which ones did not get labeled. Don & Gregg

Main Power Supplies: CARL & FRED

1. Work on PFN relay still.
2. Adjustments to DC voltmeters.
3. Measure base crystal frequency of phase locked loops.
4. Test new Procedure for restoring Mains. No RESET from pet page required.

Snake & Spin Rotator Power Supply Work:

1. Label all snake and spin rotator circuit breakers properly-make up labels now.
2. Testing spin rotator p.s.'s Wing &

ATR Power Supplies

1. Swap Circuit Breakers 42 and 44 in 1000P substation. Not definite yet.
2. Run X-ARC90 in voltage mode. Don
3. Remove Dranetz and hook up to Y-ARC p.s. Don & Costas & Line crew & Gregg
4. Test SWM p.s setpoint buffer if ready.

Valve Box Work

1. Replace warning lights with LED's on top of valve box and possibly modify light control chassis.

Timing Resolver

1. Swap out Timing Resolver A1 in 1010A. Done

Stand Alone QPA's

1. Examine D Connectors on stand alone QPA's. Done

Dynapower Broken Fans on stand alone p.s.'s

1. Fix them, all in service buildings. B12-q7, y12-q7, b4-dhx, b-qtrim, yo9-dh0, p.s. across from yo9-dh0 (one of them, check both) Joe D and Rich C, Mitch, Tom, Jeff can help after ice ball checks are done. If you are working in the DC compartment of any of the quad p.s.'s then you must lock out the main quads as well. If you are working in the DC compartment of any of the dipole p.s.'s then you must lock out the main dipoles as well. Check with Don if you are not sure.

Intermittent Ground Fault

1. Find intermittent ground fault in yellow Ring.

6000A Quench Switch y9-d-qpsw in 1010A

1. Check out why signal y9-d-qpsw.im6, it looks low. Wing & Mitch

Timing of Activities

1. These can all go on at once: Ice Ball checks, Correctors work, y8-dh0-ps hkps replacement, QPA Controller card labeling, screwing in 3u chassis cards, Gamma-T work.

Ice Ball Checks: 2 guys do whole ring Ron & Tom, report problems to PK, Jeff will be doing repairs with PK.

Replace 2 thermostats with PK: Jeff

Corrector Work: Gene & Brian

Y8-dh0-ps: Joe and Rich C

QPA Controller Card Labeling: Rich K and Tom N– start after lunch

3u chassis card screwing in: Rich K-start when QPA labeling is done.

Gamma-T work and bo7-tq4-ps & moving Dranetz and b2-dh0-ps & swap bi9-qf7 Ireg & check bo2-qd1 firing brd interlock circuit: Don & Gregg, first 3 things are most important.

Testing how TAPE handles p.s. OFF state: George & Don

Spin Rotator Testing: Wing

Ground Fault on Yellow Dipole Bus Search: George and Ed Weigand

2. The **dynapower fan replacement** shall be coordinated with George's ground fault search if you are going into DC compartments. Joe and Rich C can start this after y8-dh0-ps hkps work is done and 2 thermostats are replaced. As others get freed up they can help. Others being Tom, Jeff, Mitch, Gregg, Don

3. **6000A quench switch** shall be coordinated with George's ground fault search. Wing & Mitch

Corrector P.S. (RED first)	**Action (2/19/03)** **On all of these check AC connections and connections at the magnet.**	**Comments – What was really done- What was found**	**Serial Num-ber**
Yi7-th3-ps	Replace Node card Cable and check chips on node card that were replaced, observe rest of node card, leave node card in.		
Yo1-qs-ps	Replace because it tripped to OFF state		
Yo8-th14-ps	Tripped OFF, replace.		
Yo5-octd-ps	Replace because it tripped to OFF state		
Bi9-tv14-ps	Replace because it tripped to OFF state		
Bo3-tv17-ps	Tripped OFF, replace.		
Bi9-tv16-ps	Tripped OFF, replace.		
Yi7-tv18-ps	Tripped OFF, replace		
Yo4-th2-ps	Tripped OFF, replace		
Yo9-tv11-ps	Check Compensation is correct		
Yo8-th2-ps	Check connections at p.s. and magnet, swap out p.s. if all tight.	Connections at magnet were tightened 2/13/03. Leave alone for now.	
Bo3-qs3-ps	Measure MADC signals into patch panels and compare with front of p.s. measurements		
Bo3-th2-ps	Measure MADC signals into patch panels and compare with front of p.s. measurement		
Bo3-th8-ps	Measure MADC signals into patch panels and compare with front of p.s. measurement		
Bo3-tv9-ps	Measure MADC signals into patch panels and compare with front of p.s. measurement		
Bo3-th4-ps	Measure MADC signals into patch panels and compare with front of p.s. measurement		
Bo3-tv10-ps	Measure MADC signals into patch panels and compare with front of p.s. measurement		
Yo8-th2-ps	Has broken L/R switch, swap out if there is enough time and spares LOW PRIORITY		
Bi5-sx3-ps	Complaints of all Local pushbuttons not working, check out, if ok leave, if it is a problem swap it out if there is enough time and enough spares-LOW PRIORITY		

Dynapower P.S. With Bad Fan	Problem	Comments	P.S. Serial Number
B12-q7-ps	Center Fan not working-If you need to get into back you must lock out this p.s. and blue main quads, I am not sure if this center fan is in the front or the back.		
Y12-q7-ps	Rear Fan not working-If you need to get into back you must lock out this p.s. and yellow main quads		
B4-dhx-ps	Front right fan not working – this is ac compartment, just need to lock out this p.s. – even if fan is spinning replace it.		
b-qtrim-ps	Large rear fan closest to the back not working- If you need to get into back you must lock out this p.s. and blue main quads		
Y8-q7-ps	Small, top front left fan not working - this is ac compartment, just need to lock out this p.s. – even if fan is spinning replace it.		
Yo9-dh0-ps	Small fan front not working – this is in ac compartment, just lock out this p.s., don't go into rear at all – George is hipotting yellow dipoles!!		
Check p.s's across from yo9-dh0-ps	Front fan was not spinning – in ac compartment, lock out just this p.s.		